Improving Students' Reading Skills Through the Development of Digital Nahwu Materials

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ARTICLE INFO	ABSTRACT
	The issue of low reading skills is attributed to inadequate competency in *Nahwu*, stemming from traditional teaching methods and a lack of technology-adaptive materials. To address this challenge, the research aims to develop a more interactive digital learning medium that effectively supports *Nahwu* education. The research methodology employs a Research and Development (R&D) approach using the ADDIE model (Analysis, Design, Development, Implementation, Evaluation) alongside the SDLC Waterfall model for software development. The subjects of the study are students from the Arabic Language Education Program at UIN Maulana Malik Ibrahim Malang, class of 2022. Data collection methods include interviews, literature reviews, questionnaires, and pre-test and post-test assessments. Data analysis is conducted using both qualitative and quantitative methods, employing paired sample t-tests and Normalized Gain (N-gain) calculations. The findings indicate that the learning medium "*Nahwu al-Basith*" effectively enhances students' reading skills. The significant difference between pre-test and post-test scores (Sig. < 0.05) reflects a marked improvement in *Nahwu* mastery. Furthermore, the evaluation of this medium received a perfect score of 100%, indicating an excellent alignment with educational needs. This medium has also been shown to boost student motivation through its interactive and engaging content. The study concludes that the integration of digital technology in *Nahwu* instruction can serve as an effective solution for enhancing students' reading skills and learning motivation. **Keywords:** Reading Skills, Interactive Learning, Nahwu al-Basith, Technological Integration

INTRODUCTION

Studying *Nahwu* (Arabic grammar) presents significant challenges for students, particularly due to the predominance of traditional teaching methods and the complexity of the subject matter itself. In many instances, the lecture-based, teacher-centered approach serves as a major barrier to student engagement and interaction throughout the learning process (Husein et al., 2023). The use of conventional textbooks (Apdillah et al., 2022), which are less adaptable to diverse learning styles, contributes to low reading proficiency due to inadequate mastery of grammar (Muliatno, 2023). This challenge is intensified by the diverse educational backgrounds of the students, which directly impacts their ability to grasp the complex rules of Arabic grammar (Suparlan, 2024). Low motivation to learn is also a significant factor, as students often struggle to apply vocabulary according to grammatical rules (Suparlan, 2024).

Solutions to counter this challenge have been widely discussed in the literature. Some studies suggest the use of technology-based interactive learning methods to increase student engagement and comprehension of the material (Amir, 2023; Suparlan, 2024). In addition, extracurricular programs and training for teachers are considered effective to overcome pedagogical weaknesses and improve students' linguistic competence (Husein et al., 2023). However, some

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opinions state that the complexity of Arabic grammar, which includes its unique syntactic and morphological features, still requires a more structured teaching approach despite the weaknesses of the traditional method (Ismail, 2024). This emphasizes the necessity of balancing innovation in learning methods with an emphasis on structures that support students' overall understanding.

The use of digital technology in teaching Arabic, particularly in *Nahwu* studies, is now considered essential for enhancing the interactive and efficient learning process. These days, various digital tools such as e-learning platforms and multimedia have been proven to increase student engagement and comprehension (Muflianah, 2022). Research has shown that technology-based interactive learning methods can have a significant positive impact on the quality of learning (Cholidah & Muid, 2024). Some institutions, such as Al-Fityan School, have successfully implemented this technology in Arabic language learning, demonstrating the effectiveness of using digital technology in teaching (Saleh et al., 2023).

However, major challenges still hinder the comprehensive implementation of digital technology. One of the main barriers is the limited infrastructure and the lack of readiness of the teaching staff in using digital tools optimally (Sarah et al., 2024). In addition, the availability of digital materials specifically for *Nahwu* is still very limited, which makes it troublesome for students to access quality resources (Sarah et al., 2024). This condition calls for strategic solutions to deal with these hurdles.

As a recommendation, there is a call for continuous development of adaptive digital teaching materials to meet modern learning needs (Sihaloho et al., 2023). In addition, educational institutions should prioritize teacher training programs so that they can master and utilize digital tools more effectively (Cholidah & Muid, 2024; Saleh et al., 2023). By taking a proactive approach, the integration of digital technology in Arabic language education, especially in *Nahwu* learning, can be realized more optimally, thus improving the quality of learning in this digital era.

Islamic Higher Education Institutions (PTKI) in Indonesia play a crucial role in producing religious teachers, particularly by enhancing students' skills in reading classical Islamic texts (*turâts*). This competency is vital for directly understanding Islamic knowledge from its original sources in Arabic. However, many students still face challenges in mastering Arabic literacy and reading classical texts. A key to comprehending these texts is the mastery of *Nahwu*, which aids students in grasping the grammatical structure of the Arabic language (Rahmawati, 2022). Unfortunately, *Nahwu* teaching in Indonesia remains traditional and is seen as challenging by many students (Hakim, 2013). To address this issue, the development of digital *Nahwu* materials through an Android application could serve as an effective solution. By incorporating explanatory videos, quizzes, and interactive illustrations, this app enables students to learn in a more contextual and functional manner, enhancing their reading skills. This research will explore the development of digital *Nahwu* materials at UIN Maliki Malang and evaluate their validity and effectiveness in improving students' reading abilities.

The novelty of this research lies in the development of a digital *Nahwu* learning media using the *Nahwu al-Basith* application, designed with the ADDIE and SDLC (Waterfall) approaches. This media provides an interactive learning experience featuring multimedia elements such as videos, quizzes, and illustrations, which have not been widely utilized in *Nahwu* teaching in Indonesia. Additionally, the study assesses the effectiveness of the media through both quantitative methods (t-tests and Wilcoxon rank tests) and qualitative methods (interviews), making a significant contribution to the literature on the integration of technology in Arabic language education.

METHODS

The research conducted in this study uses a method focused on Research and Development (R&D) with the goal of producing a product for particular tasks rather than analyzing a hypothesis (Hamzah, 2021). According to Borg and Gall, research and development (R&D) is a process utilized to create or validate existing products or new ones (Hamzah, 2021). This study centers on the creation of educational media through a multimedia-based learning design utilizing the ADDIE

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model. The ADDIE model was developed by Dick et al. (2015), involves five main phases: Analysis, Design, Development, Implementation and Evaluation. This model was chosen to ensure that the learning program development process is more systematic and effective.

This study also employs the SDLC (Waterfall) system development model, which is sequential and begins with system requirements analysis and continues through to testing. The stages in the Waterfall model include: system requirements analysis, software design, coding, software testing, and support/implementation. This model ensures that each phase is carried out in order, starting from gathering requirements data to testing and maintaining the software.

This study aims to investigate the Arab Language Education Program students at UIN Maulana Malik Ibrahim Malang, specifically those from the 2022 cohort who are currently enrolled in the *Nahwu* course. This study gathers data from five primary sources: interviews, literature reviews, questionnaires, tests, and product development reports. Interviews are conducted to analyze the initial situation and issues related to the research, while literature reviews aim to explore knowledge about learning media. Questionnaires are utilized to assess the feasibility of the product during the implementation phase, and tests are administered to evaluate the students' knowledge improvement before and after using the *Nahwu al-Basith* application through a pre-test and post-test experimental design.

This research involved gathering two different kinds of information: qualitative and quantitative data. The qualitative data was used to create and confirm the design of the product, while the quantitative data was employed for product validation and measuring its effectiveness. The qualitative data was analyzed descriptively by categorizing information based on feedback from language experts, content specialists, media experts, lecturers, and students. On the other hand, the quantitative data analysis involved using paired sample t-tests to assess the differences between pre-test and post-test scores, along with the Wilcoxon rank test for data that did not follow a normal distribution. Additionally, the Normalized Gain (N-gain) calculation was applied to determine the improvement in scores for each student after using the application.

RESULTS

Analysis

The analysis was conducted in 2 learning sessions, and the results were as follows:

Table 1. Pretest-Post Test Scores for the *Kalam* and *I'rob* Chapters

Paired Samples Statistics		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	PRETEST	73,44	16	7,465	1,866
	POSTTEST	95,00	16	6,583	1,646

Paired Samples Correlations		N	Correlation	Sig.
Pair 1	PRETEST & POSTTEST	16	,746	,001

Paired Samples Test									
		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	PRETEST -POSTTEST	-21,562	5,072	1,268	-24,265	-18,860	-17,004	15	,000

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The analysis was carried out using the Paired Sample T-Test to investigate the impact of the *Nahwu al-Basith* media on the learning outcomes of students in class A2, specifically in the chapters of *Kalam* and *I'rob*. The significance value (Sig.) obtained is crucial for determining whether the null hypothesis (Ho) can be accepted or rejected. According to the guidelines provided by (Santoso, 2017), if the p-value is below 0.05, we can reject the null hypothesis (Ho) and accept the alternative hypothesis (Ha), showing a noteworthy variation in the mean scores from the pretest to posttest. The null hypothesis (Ho) in this research asserts that there is no noteworthy difference in the average scores between the pretest and posttest, suggesting that the *Nahwu al-Basith* media does not affect learning outcomes. Conversely, the alternative hypothesis (Ha) suggests that there is a significant difference in averages, indicating that the media does have an impact on improving students' learning outcomes.

Based on the analysis, an insignificant p-value of 0.000 was found, indicating that the null hypothesis (Ho) is not supported and the alternative hypothesis (Ha) is favored. This finding suggests that there is a significant difference in the average scores between the pretest and posttest, indicating that the use of the *Nahwu al-Basith* media has a positive impact on students' learning outcomes in the topics of *Kalam* and *I'rob*. The recorded average difference is -21.562, which reflects a decrease in the average score in the posttest compared to the pretest. Although this may seem contradictory, this decrease actually signifies a substantial improvement in the mastery of the material, as the media employed may have facilitated a more effective understanding of complex concepts for the students.

Furthermore, the 95% confidence interval for the difference ranges from -24.265 to -18.860, providing a clearer picture of the magnitude of the difference observed and the consistency of the results across a broader sample. This interval does not include zero, which further reinforces the notion that the detected difference is not a mere coincidence but rather a genuine phenomenon. Overall, the findings of this analysis indicate that the use of *Nahwu al-Basith* media has a positive impact on the learning outcomes of students in class A2 regarding the topics of *Kalam* and *I'rob*. This suggests that a media-based learning approach can enhance students' understanding, particularly in subjects that may be challenging to grasp without the aid of visual or interactive tools such as this media.

Table 2. Pretest-Post Test Scores for the I'rob Isim Chapter

Paired Samples Statistics					
		Mean	**N**	**Std. Deviation**	**Std. Error Mean**
Pair 1	PRETEST	64,69	16	4,270	1,067
	POSTTEST	93,75	16	5,000	1,250

Paired Samples Correlations				
		N	**Correlation**	**Sig.**
Pair 1	PRETEST & POSTTEST	16	,293	,271

Paired Samples Test								
		Paired Differences						
		Mean	**Std. Deviation**	**Std. Error Mean**	**95% Confidence Interval of the Difference**		**t**	**df** **Sig. (2-tailed)**
					Lower	**Upper**		
Pair 1	Pretest - Posttest	-29,062	5,543	1,386	-32,016	-26,109	-20,971	15 ,000

According to the data in the table 2, the significance value is 0.000, indicating a statistically significant difference between the pretest and posttest scores. This result rejects the null hypothesis and supports the alternative hypothesis. Consequently, it can be inferred that the use of *Nahwu al-Basith* media has a positive impact on the learning outcomes of students in class A2 regarding the chapter on *I'rob Isim*. The average paired difference of -29.062 reflects the disparity

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between the pretest and posttest scores. The discrepancy between the values falls within the range of -32.016 to -26.109, as evidenced by the 95% Confidence Interval for the Difference Lower and Upper Bounds. These results demonstrate that the use of this media significantly enhances students' learning outcomes, which is consistent with previous findings on the impact of educational media on student performance (Arifin, 2020; Pratama, 2021).

DISCUSSION

Effectiveness of the Media

The evaluation results of the *Nahwu al-Basith* media indicate that it is highly effective in supporting *Nahwu* learning, achieving a score of 100%, which categorizes it as excellent. This score demonstrates that the media meets all the necessary criteria for educational assessment, encompassing various aspects such as material quality, interactivity, and user-friendliness. According to the criteria table utilized, the 100% score reflects the media's alignment with the established learning objectives.

In addition to quantitative data, the effectiveness of the media can also be assessed through qualitative data obtained from interviews with 16 users of *Nahwu al-Basith*. These interviews revealed two primary perspectives regarding the media's effectiveness. Two out of the 16 respondents indicated that the media is highly effective for learning *Nahwu*, reflecting a high level of satisfaction with its features, such as the ease of understanding the material and the interactivity it offers. Meanwhile, the remaining respondents acknowledged that *Nahwu al-Basith* is effective in *Nahwu* learning, although there were some differing opinions on specific aspects of the media, such as the variety of practice questions or the method of material delivery. Nevertheless, the majority of respondents recognized that this media has made a significant contribution to their learning process.

Furthermore, the enhancement of motivation serves as a significant indicator in evaluating the effectiveness of this media. Interview results indicate that all respondents experienced an increase in their motivation to learn *Nahwu* after utilizing *Nahwu al-Basith*. This boost in motivation can be attributed to various elements present in the media, such as engaging content presentation, immediate feedback on responses, and the convenience of accessing materials anytime and anywhere. Consequently, *Nahwu al-Basith* is not only effective in improving the understanding of *Nahwu* content but also plays a crucial role in encouraging users to be more active in the learning process.

For the development of digital *Nahwu* materials, several studies have concentrated on the integration of technology into Arabic grammar learning. One approach taken involves creating interactive digital learning content that incorporates multimedia elements such as videos, slides, and quizzes to enhance the learning experience. This method has been shown to assist students in comprehending complex Arabic grammar concepts, such as *Nahwu* and *Shorof*, more effectively, particularly within the context of Islamic education in Indonesia (Haris, 2022).

The integration of digital technology in the teaching of Arabic grammar, particularly *Nahwu*, is increasingly gaining attention due to its potential to enhance student engagement and understanding. Hasibuan et al. (2023) emphasize the significance of applying TPACK (Technological Pedagogical and Content Knowledge) in the integration of functional digital *Nahwu* materials. Their research indicates that the use of digital resources can improve the effectiveness of instruction and deepen students' comprehension of *Nahwu* by leveraging technology to present complex grammatical concepts in a more accessible and engaging manner. In essence, the digitization of *Nahwu* materials facilitates a pedagogical approach that is more aligned with the demands of modern learning, ultimately enriching the overall learning experience (Hasibuan et al., 2023).

Research conducted Jamil et al. (2020) also emphasizes the design and implementation of *Nahwu* teaching materials within the framework of Islamic education. They underscore the significance of integrating functional *Nahwu* content that aligns not only with sound pedagogical principles but also with contemporary educational practices. According to their findings, well-designed digital materials play a vital role in enhancing the teaching of Arabic grammar by equipping

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students with tools that facilitate a deeper understanding of language structure, in accordance with more modern teaching methodologies (Jamil et al., 2020).

Meanwhile, Munajat (2015) employed a functional approach in the study of *Nahwu* and investigated how digital tools can enhance the understanding of Arabic grammar. Further, Munajat emphasized that digital materials are highly beneficial in simplifying complex grammatical rules, thereby enabling students to engage more effectively with *Nahwu* through content rich in interactive and multimedia elements (Munajat, 2015).

Ultimately, the utilization of digital materials in the teaching of *Nahwu*, as discussed by these researchers, indicates a shift towards more interactive, engaging, and effective learning methods. This integration of technology not only enhances students' understanding but also fosters the development of 21st-century skills within them.

CONCLUSION

The research shows that the online educational tool *Nahwu al-Basith* has been successful in improving students' reading abilities, particularly in the areas of *Kalam* and *I'rob*. This is evidenced by the significant improvement in scores observed in the pretest and posttest, as well as the positive feedback from users regarding the ease of use and the relevance of this media to their learning needs. In addition to improving comprehension, this media has also successfully boosted students' motivation to learn through an interactive and engaging educational approach.

The development of the *Nahwu al-Basith* media has significant implications for Arabic language education, particularly in leveraging technology to enhance the quality of learning. For educational institutions, this media can serve as a reference for adopting modern teaching methods that are more aligned with the demands of the digital age. Furthermore, educators are encouraged to be increasingly creative and innovative in delivering instructional content through the use of technology. For students, this application presents opportunities for more independent learning, enabling them to master Arabic grammar more effectively and gain a deeper understanding of classical texts.

To enhance broader effectiveness, it is essential to develop supplementary materials for the *Nahwu al-Basith* application to encompass additional relevant topics in Arabic grammar. Educational institutions should offer training for educators to enable them to utilize this digital media optimally in the teaching process. Furthermore, improving technological infrastructure should be prioritized to ensure that digital media is accessible and effective for a wide audience. Further research is recommended to test this media on a more diverse group of students and to evaluate its long-term impact on Arabic language learning.

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